X-RAY SPECTROSCOPY, X-RAY POWER, BOLOMETRY AND OPACITY MEASUREMENTS
Session Chairman: James P. Knauer
8:30 am – 12:30 pm, Monday May 12

Oral Invited Session A

		First Author		Title
8:30 am	A1	Peterson	B.J.	Development of Imaging Bolometers for Magnetic Fusion Reactors
9 :00 am	A2	Ince-Cushman	A.	Spatially Resolved High Resolution X-Ray Spectroscopy for Magnetically Confined Fusion Plasmas
9:30 am	A3	Bailey	J.E.	Diagnosing Opacity Experiments That Approach Stellar Interior Temperatures
10:00 am	A4	Heeter	R.F.	OZSPEC: A High Resolution Spectrometer for Opacity Studies

Poster Contributed Session B

		First Author		Title
10:30 am	B1	Hall	I.M.	Modelling, Design and Diagnostics For A Photoionised Plasma Experiment
	B2	May	M.J.	Photoconductive Detectors with fast temporal response for Laser Produced Plasma Experiments
	B3	Chen	C.D.	Combined Bremsstrahlung and Electron Spectrometer using k-edge and Differential Filters with Image Plate Dosimeters
	B4	Nash	Thomas	Current Scaling of Axially Radiated Power in Dynamic Hohlraums and Dynamic Hohlraum Load Design for ZR
	B5	Murphy	D.P.	Time-Resolved Voltage Measurements Of Z-Pinch Radiation Sources With A Vacuum Voltmeter
	B6	Thornton	Lee J.	Design of the Orion Soft X-ray and Vacuum Ultra-Violet Reflection Grating Spectrometer
	B7	Reverdin	C.	X-ray diagnostic calibration with the table-top laser facility EQUINOX
	B8	Villette	B.	Calibration Survey Of The Active Components For The X-Ray Wide Band Spectrometer DMX
	B9	Porter	F. Scott	The EBIT Calorimeter Spectrometer
	B10	Osborne	G.C.	Diagnostic of charge balance in high-temperature tungsten plasmas using LLNL EBIT
	B11	Brown	G.V.	Rapid, Absolute Calibration of X-ray Filters Employed By Laser-Produced Plasma Diagnostics
	B12	Widmann	K.	Development of a Transmission-Crystal X-ray Spectrometer for Time-Resolved Measurements of the L-Shell Emission Spectra from Laser-Produced Gold Plasmas
	B13	Florido	R.	Analysis Of Time-Resolved Argon Line Spectra From OMEGA Direct-Drive Implosions
	B14	Doeppner	T.	High order crystal reflectivity for 12.6 keV x-rays
	B15	Ma	T.	Electron-Heated Target Temperature Measurements in Petawatt

			Laser Experiments Based on Extreme Ultraviolet Imaging and Spectroscopy
B16	Trabert	Elmar	L-shell Spectra of Au as a Temperature Diagnostic of Laser-Heated Hohlraum Plasmas
B17	Dunn	J.	High resolution soft x-ray spectroscopy of low Z K-shell emission from laser-produced plasmas
B18	Sinars	Daniel B.	A time-integrated 7-25 keV survey spectrometer for the Sandia Z facility
B19	Safronova	A.S	X-ray Diagnostics of Imploding Plasmas from Planar Wire Arrays Composed of Cu and Few Tracer Al Wires on the 1MA Pulsed Power Generator at UNR
B20	Shelkovenko	T.A.	Measurements Of Hard X-Ray And High-Current Electron Beams From X Pinches And Wire Arrays
B21	Lee	S.G.	X-ray Imaging Crystal Spectrometer for KSTAR
B22	Beiersdorfer	P.	Upgraded X-Ray and Extreme Ultraviolet Spectrometer for Use on the National Spherical Torus Experiment
B23	Tritz	K.	'Multicolor' Soft X-ray Detector Sensitivities and Optimization
B24	Delgado-Aparicio	L.F.	Measuring particle and electron temperature profiles using a multi-energy soft-X-ray array
B25	Sushkov	A.	Duplex Multiwire Proportional X-ray Detector for Multichord Time-resolved Soft X-ray and Electron Temperature Measurements on T-10 Tokamak
B26	Savrukhin	P.V.	Nonthermal x-ray spectroscopy and fluctuation measurements using Si and CdTe detectors in the T-10 tokamak
B27	Hill	K.W.	A Spatially Resolving X-Ray Crystal Spectrometer for Measurement of Ion-Temperature and Rotation-Velocity Profiles on the Alcator C-Mod Tokamak
B28	Mazon	D.	An original soft X-ray detectors calibration technique and its use in the Tore Supra tomographic system
B29	Pacella	D.	Characterization of detection efficiency as function of energy for soft X-ray detectors
B30	Akli	K.U.	Measurement of Absolute Kα Yield Using Highly Ordered Pyrolytic Graphite Crystals (HOPG)
B31	Akli	K.U.	2D Spatially resolved Ly_{α} Imaging of Hot Plasmas
B32	Thorn	Daniel B.	High Resolution Hard X-Ray Spectroscopy Of High Temperature Plasmas Using An Array Of Quantum Microcalorimeters
B33	Sciamma	Ella M.	Method to Estimate the Electron Temperature and Neutral Density in a Plasma from Spectroscopic Measurements Using Argon Atom and Ion Collisional-Radiative Models*
B34	Pereira	Nino R.	X-ray Polarization Spectroscopy with a Single Crystal

FUSION PRODUCTS AND FAST IONS
Session Chairman: Jeffrey A. Koch
7:00 pm – 10:30 pm, Monday May 12

Oral Invited Papers Session C

First

		Author		Title
7:00 pm	C1	Meo	F.	Commissioning and First Results of the Fast Ion Collective Thomson Scattering Diagnostic on ASDEX Upgrade
7:30 pm	C2	Frenje	J.A.	First Measurements of the Absolute Neutron Spectrum using the Magnetic Recoil Spectrometer (MRS) at OMEGA
8:00 pm	C3	Grim	G.P.	Development of Radiochemistry Diagnostics for the National Ignition Facility

Poster Contributed Session D

		First Author		Title
8:30 pm	D1	Fisher	R.K.	Novel Applications of Neutron Activation Techniques on ITER
	D2	Bonheure	G.	In-vessel Activation Monitors in JET: modeling and experiments
	D3	Cheon	M.S.	In-Vessel Design of Neutron Activation System for ITER
	D4	Hayashi	Takao	Absolute Calibration of Microfission Chamber in JT-60U
	D5	Ishikawa	Masao	Detailed Design of Microfission Chamber for ITER Operations
	D6	Conroy	S.	Neutron spectrometer for ITER using silicon detectors
	D7	Shinohara	K.	Collimated neutron flux array system using a digital signal processing method for neutron-gamma signal discrimination in JT-60U
	D8	Hellesen	C.	Validation of TRANSP Simulations Using Neutron Emission Spectroscopy with Dual Sight Lines
	D9	Ognissanto	F.	Viewing Line Effects On Plasma Temperature Measured With Neutron Emission Spectroscopy
	D10	Funaki	D.	Full Orbit Calculation for Lost Alpha Particle Measurement on ITER
	D11	Ronchi	E.	A Neural Networks Framework For Real-Time Unfolding Of Neutron Spectroscopic Data At JET
	D12	Giacomelli	L.	Neutron Emission Spectroscopy Results For ITB And Mode Conversion ICRH Experiments At JET
	D13	Belli	F.	Application of a Digital Pile-up Resolving Method to High Count Rate Neutron Measurements
	D14	Jimenez-Rey	D.	The Response of a Radiation Resistant Ceramic Scintillator (Al_2O_3:Cr) to Low Energy Ions (0-60 keV)
	D15	De Angelis	R.	Investigating the possibility of a survey fast ion diagnostic for ITER
	D16	Ozaki	T.	Pellet charge exchange helium measurement using neutral particle analyzer in Large Helical Device
	D17	Osakabe	Masaki	Fast ion charge exchange spectroscopy measurement using radially injected neutral beam on LHD
	D18	Heidbrink	W.W.	A New Fast-Ion D-alpha Diagnostic for DIII-D
	D19	Podesta	M.	The NSTX Fast-Ion D-Alpha Diagnostic
	D20	Delabie	E.	Sensitivity And Consistency Of Charge Exchange Spectroscopy As A Fast Ion Diagnostic On TEXTOR
	D21	Nagaoka	K.	Fast Ion Measurement Using a Hybrid Directional Probe in the Large Helical Device
	D22	Tardocchi	M.	Gamma Ray Spectroscopy At High Energy and Time Resolution at JET
	D23	Kiptily	V.	γ-ray background suppression with 6LiH neutron attenuator in JET experiments

D24	Wilson	D.C.	Diagnosing Ignition with DT Reaction History
D25	Delamater	N.D.	Use of d-3He protons as a diagnostic of shell ρr in capsule implosion experiments with ~0.2 NIF scale high temperature hohlraums at Omega
D26	Ali	Z.A.	Tests and Calibration of the NIF Neutron Time of Flight Detectors
D27	Nelson	A.J.	Modeling the Axial Neutron Time of Flight (nTOF) Detector Response to ICF Experiments at the Z-Facility
D28	Glebov	V. Yu	Neutron Bang-Time Detector Based on a Light Pipe
D29	Landoas	O.	Development of Fast CVD Diamond Detectors for Inertial Confinement Fusion Experiments
D30	Wilke	Mark D.	The NIF Neutron Imaging System (NIS)
D31	Fittinghoff	David N.	One-Dimensional Neutron Imager for the Sandia Z Facility
D32	McPherson	Armon	Neutron Imaging At Z In A Harsh Bremsstrahlung Environment
D33	Morgan	George L.	A Neutron Flash Radiography System
D34	Herrmann	H.W.	ICF Gamma Bang Time / Reaction History Diagnostics
D35	Malone	R.M.	Gamma Bang Time/Reaction History Diagnostics for the National Ignition Facility (NIF) Using 90º off-axis, parabolic mirrors
D36	Casey	D.T.	Minimizing background at the Magnetic Recoil Spectrometer (MRS) at OMEGA and the National Ignition Facility (NIF)
D37	Chen	Hui	High performance compact magnetic spectrometers for energetic ion and electron measurement in ultra intense short pulse laser solid interactions
D38	Freeman	C.G.	A Thomson Parabola Ion Spectrometer for the Multiterawatt Laser Facility
D39	Flippo	K.A.	Energetic Ion Acceleration, X-ray Production and New Scaling Laws from the Commissioning of the LANL 200 TW Trident Laser
D40	Cowan	J.S.	Comparison of Digitizing Techniques of Radiochromic Film for Data Analysis
D41	Gautier	D.C.	A Simple Apparatus For Quick Qualitative Analysis Of CR-39 Nuclear Track Detectors
D42	Grim	G.P.	Development of a Spatially Resolved Neutron Temperature Measurement for the NIF

INTERFEROMETRY, POLARIMETRY, THOMSON SCATTERING, BACKSCATTERING AND FLUCTUATIONS
Session Chairmen: David L. Brower
8:30 am – 12:30 pm, Tuesday, May 13

Oral Invited Session E

		First Author		Title
8:30 am	E1	Edlund	Eric	Phase Contrast Imaging Diagnostics On The Alcator C-Mod and DIII-D Tokamaks
9:00 am	E2	Ding	W.X.	Measurement of Magnetic Fluctuation-Induced Particle Flux in

				MST
9:30 am	E3	Tanaka	K.	Two Dimensional Phase Contrast Imaging for Local Turbulence Measurements in LHD
10:00 am	E4	Smith	Roger J.	Non-perturbative Measurement of the Local Magnetic Field Using Pulsed Polarimetry for Fusion Reactor Conditions

Poster Contributed Session F

		First Author		Title
10:30 am	F1	Howard	John	Imaging interferometers for analysis of Thomson scattered spectra
	F2	Nam	Y.U.	A 280 GHz single-channel millimeter-wave interferometer system for KSTAR
	F3	Yoshikawa	M.	Radial density profile measurement by using the Multi-channel microwave interferometer in GAMMA 10
	F4	Kawahata	K.	Development of THz Laser Diagnostics for Electron Density Measurements
	F5	Kornejew	P.	Optimization of components of the infrared two-colour interferometer for Wendelstein-7X
	F6	Lizunov	A.	Development of a multi-channel dispersion interferometer at TEXTOR
	F7	Bertschinger	G.	Dichroic Filters To Protect mW FIR Detectors Against MW ECRH Radiation
	F8	Gil	C.	Fringe jump analysis and electronic corrections for the Tore Supra FIR interferometer
	F9	Marques	T.	Real-time digital heterodyne interferometer for high resolution plasma density measurements at ISTTOK
	F10	Dreier	H.	Bayesian Experimental Design of a multi-channel interferometer for Wendelstein 7-X
	F11	Acedo	P.	High Spatial Resolution Laser Two-Color Heterodyne Interferometer for Density Profile Measurements in the TJ-II Stellarator
	F12	Tsai	W.C.	Bandwidth Upgrade for the NSTX FIReTIP Systems
	F13	Curry	John J.	Submillimeter-wave Interferometry for Measurement of Electron Densities in Small, High-Density
	F14	Yates	T.F.	Density and Magnetic Field Fluctuation Measurements by Far-Infrared Interferometry and Polarimetry
	F15	Kim	Yong W.	Spectroscopic Interferometer for Coherence Length Spectroscopy of Pulsed Discharge Plasma
	F16	Pikuz	S.A.	A Torquing Shearing Interferometer For Cylindrical Wire Array Experiments
	F17	Bott	S.C.	Simultaneous, collinear laser interferometry and gated self emission imaging system for exploding wire experiments
	F18	Jackson	S.L.	A Comparison of Planar, Laser-Induced Fluorescence and High-Sensitivity Interferometry Techniques for Gas-Puff Nozzle Density Measurements
	F19	Froula	D.H.	Double-Pass Time Resolved Interferometry
	F20	Brombin	M.	Real time electron density measurements from Cotton Mouton effect in JET machine

F21	Kamiya	K.	Optical design for Li-beam Zeeman polarimetry, Charge eXchange Recombination Spectroscopy and Beam Emission Spectroscopy measurements on JT-60U
F22	Van Zeeland	M.A.	CO_2 Laser Polarimeter for Faraday Rotation Measurements in the DIII-D Tokamak
F23	Akiyama	T.	Short wavelength FIR laser polarimeter with silicon photoelastic modulators
F24	Gilmore	M.	Measurement of the Effective Length of Laser-Plasma Channels by Guided Microwave
F25	Kharchev	N.	Collective Backscattering of Gyrotron Radiation by Small-Scale Plasma Density Fluctuations in LHD
F26	Kasahara	H.	The observation of non-linear ion cyclotron wave excitation during high-harmonic fast wave heating in the LHD
F27	Lee	W.	Power Calibration and Remote Control Capability of the High-k Scattering System on NSTX
F28	Michael	C.A.	Detection of high k turbulence using 2D phase contrast imaging on LHD
F29	Hardin	R.A.	A 300 GHz Collective Scattering Diagnostic for Low Temperature Plasmas
F30	Kajita	Shin	Design Study of Polychromators for ITER Edge Thomson Scattering Diagnostics
F31	Beurskens	Marc	ITER LIDAR performance analysis
F32	Giudicotti	L.	Near-Infrared Detectors for ITER LIDAR Thomson Scattering
F33	Kempenaars	M.	Enhancement of the JET Edge LIDAR Thomson Scattering Diagnostic With Ultra Fast Detectors
F34	Salewski	M.	Investigation of First Mirror Heating for the CTS Diagnostic in ITER
F35	Walsh	M.J.	Design of a New Core Nd:YAG Thomson Scattering System for MAST
F36	Bilkova	Petra	High resolution Thomson scattering system for the reinstalled COMPASS tokamak
F37	Borges	F.O.	The Multipoint Thomson Scattering Diagnostic For The TCABR Tokamak
F38	Nishiura	M.	Design of Collective Thomson Scattering System Using 77 GHz Gyrotron For Bulk and Tail Ion Diagnostics In The Large Helical Device
F39	Notake	T.	Sub-Terahertz Gyrotron Developments for Collective Thomson Scattering in LHD
F40	Huang	Y.	Thomson Scattering System of Multiple Space Points on the HL-2A tokamak
F41	Reusch	J.A.	Multi-point Thomson Scattering Diagnostic for the Madison Symmetric Torus Reversed-Field Pinch
F42	Stephens	H.D.	Calibration of a Thomson scattering diagnostic for fluctuation measurements
F43	O'Connell	R.	Optimizing a Thomson scattering diagnostic for fast dynamics and high background
F44	Den Hartog	D.J.	A Pulse-Burst Laser System for a High-Repetition-Rate Thomson Scattering Diagnostic

F45	LeBlanc	B.P.	Thomson Scattering Density Calibration by Rayleigh and Rotational Raman Scattering on NSTX
F46	Strickler	T.	The Thomson Scattering System on the Lithium Tokamak Experiment (LTX)
F47	Ponce-Marquez	D.M.	Technology Upgrade For The Thomson Scattering Diagnostic On DIII-D
F48	Kritcher	Andrea L.	Ti K-alpha X-ray Thomson Scattering Diagnostic for Picosecond Characterization of Dense plasmas
F49	Taccetti	J.M.	A technique for measuring the electron-ion temperature relaxation rate in a dense plasma

X-RAY IMAGING, X-RAY DETECTORS AND RADIOGRAPHY
Session Chairman: Robert L. Kauffman
1:30 pm – 5:30 pm, Tuesday, May 13

Oral Invited Session G

		First Author		Title
1:30 pm	G1	Tommasini	R.	Development of backlighting sources for a Compton radiography diagnostic of Inertial Confinement Fusion targets
2:00 pm	G2	Rochau	G.A.	Measurement and Modeling of Pulsed Microchannel Plate Operation
2:30 pm	G3	Dewald	E.L.	NIF-Scale Hohlraum Symmetry Measurements for Early-Time Symmetry Tuning on NIF
3:00 pm	G4	Koch	J.A.	Refraction and Diffraction Enhanced Radiography for ICF Applications

Poster Contributed Session H

		First Author		Title
3:30 pm	H1	Bourgade	J.L.	HRXI A Versatile X-ray Imager For Laser Plasma Experiments On Omega
	H2	Workman	J.	High-Energy, High-Resolution X-ray Imaging On the TRIDENT Short-Pulse Laser Facility
	H3	Jones	B.	Monochromatic, Time-Gated, Soft X-Ray Pinhole Imaging on the Z and Saturn Pulsed Power
	H4	Zhong	J.Y.	One-dimensional and multi channels multi-imaging x-ray streak camera for imploded core plasma of shell-cone target
	H5	Tanabe	Minoru	Monochromatic x-ray imagers for fast igniter plasma with highly spatial, temporal, and spectral resolutions
	H6	Koga	M.	Measurement of Heating Laser Injection Time to Imploded Core Plasma by Using X-ray Framing
	H7	Tanimoto	Tsuyoshi	Calibration of Saturated Imaging Plate Data by High Energy and High Density Particles
	H8	Huntington	C.M.	Electronic Measurement of Microchannel Plate Pulse Height

			Distribution
H9	Kruschwitz	Craig A.	Monte Carlo Simulations of High-speed, Time-gated MCP–based X-ray Detectors: Saturation Effects in DC and Pulsed Modes and Detector Dynamic Range
H10	Lowenstern	M.E.	Implementation of Au Transmission Photocathode for Laboratory Astrophysics Diagnostics Research
H11	Olson	Richard E.	Design of a Streaked Radiography Instrument for ICF Ablator Tuning Measurements
H12	Bennett	Guy R.	2-Frame 6.151-keV X-ray Imaging on the Recently Upgraded Z-Accelerator: A Progress Report
H13	Geissel	M.	High Energy X-Ray Diagnostics with Z-Petawatt
H14	Reighard	A.B.	Long-Duration Backlighter Experiments at Omega
H15	James	Steven F.	High Energy, High Resolution Point-Projection Radiography
H16	Shiraga	Hiroyuki	Streaked X-Ray Backlighting with Twin-Slit Imager for Study of Density Profile and Trajectory of Low-Density Foam Target Filled with Deuterium Liquid
H17	Izumi	N.	Characterization of Laser-Produced Plasma Absolute X-ray Brightness and Source Size for Phase-Contrast Radiography Applications
H18	Kugland	N.L.	12.6 keV Kr Kα X-ray Source For High Energy Density Physics Experiments
H19	Keiter	Paul	Conversion Efficiency of High-Z Backlighter Materials
H20	Gunderson	Mark	Experiments on Radiation Flow in Inhomogeneous Materials
H21	Tierney	Thomas E.	Radiation-Driven Blast Waves As An Energy Diagnostic
H22	Bittlestone	D.	Nanosecond Imaging of Plasmas Created in the Paraxial Radiographic Diode
H23	Madden	R.E.	Characterization of Carbon X-pinches for Low Density Plasma Imaging
H24	Shiraga	Hiroyuki	Observation of Asymmetrically Imploded Core Plasmas with a Two-Dimensional Sampling Image X-Ray Streak Camera
H25	Edens	Aaron D.	Argon Self Emission Diagnostic for Fuel Compression Measurement
H26	Nagayama	T.	Comparison of genetic-algorithm and emissivity-ratio analysis of image data from OMEGA implosion cores
H27	Meadowcroft	A.L.	Evaluation of the sensitivity, fading and quantum efficiency of Fuji BAS image plates for x-ray diagnostics
H28	Girard	Frederic	NIF Unconverted Light Estimations and its Influence on DANTE Measurements
H29	Idzorek	G.C.	Reproducible, Rugged, and Inexpensive Photocathode X-Ray Diode
H30	Moore	A.S.	Soft x-ray detection using photo-conductive type-IIa, and single crystal CVD diamond detectors
H31	Maddox	B.R.	Calibration and Characterization of Single Photon Counting Cameras for Short-Pulse Laser Experiments
H32	Haugh	M.J.	Flat Field Anomalies In An X-Ray CCD Camera Measured Using A Manson X-Ray Source
H33	Xiao	C.	Design and Initial Operation of Soft X-Ray Multichord Arrays on the STOR-M Tokamak

H34	Bitter	M.	Wide-Angle Point-To-Point X-ray Imaging With Almost Arbitrarily Large Angles Of Incidence
H35	Bush	C.E.	Fast Soft X-ray Camera Images of MHD Phenomena in NSTX
H36	Suzuki	C.	Energy Resolved Soft X-ray Imaging Using a CCD Camera for Long Pulse Discharges in the Large Helical Device
H37	Gott	Yu	The Radiation-tolerant X-rays Detector
H38	Yuan	Guoliang	Development of CdTe System for Suprathermal Electron Detection in the HL-2A Tokamak

REFLECTOMETRY, ECE, RF, MAGNETICS AND PROBES
Session Chairman: Neville Luhmann
8:30 am - 12:30 pm, Wednesday, May 14

Oral Invited Session I

		First Author		Title
8:30 am	I1	White	A.E.	Testing and Validating Nonlinear Gyrokinetic Turbulence Predictions via Multi-Field Turbulence Profile Measurements
9:00 am	I2	Diem	S.J.	Electron Bernstein Wave Emission and Mode Conversion Physics on NSTX
9:30 am	I3	Gourdain	P.A.	Reflectometry Power Flow in Tokamak Plasmas and Implications for Magnetic Field Pitch Angle
10:00 am	I4	Zhang	P.	The Next Generation of Electron Cyclotron Emission Imaging (ECEI) Diagnostic

Poster Contributed Session J

		First Author		Title
10:30 am	J1	Da Silva	Filipe	First evaluation of ITER GAP 5 plasma position reflectometer using a 2D full-wave FDTD code
	J2	Cavazzana	Roberto	Robust Measurement of Group Delay in Presence of Density Fluctuations by means of Ultra Fast Swept Reflectometry
	J3	Cupido	L.	Designing a Fast Wave Reflectometer for JET
	J4	Fonseca	A.	In-situ Calibration Of The Correlation Reflectometry Systems On The JET Tokamak
	J5	Figueiredo	A.C.A.	Systematic and Routine Analysis of Radial Correlation Reflectometry Data in JET
	J6	Meneses	L.	First density profile measurements using FMCW reflectometry on JET
	J7	Tokuzawa	T.	V-band Frequency Hopping Microwave Reflectometer in LHD
	J8	Minami	Takashi	Proposal of in situ Density Calibration for Thomson Scattering Measurement by Microwave Reflectometry
	J9	Yamaguchi	S.	Microwave Imaging Reflectometry in LHD
	J10	Yokota	Yuya	Reconstruction of Edge Density Profiles on LHD using Ultrashort-Pulse Reflectometry
	J11	Schmitz	L.	Detection Of Zonal Flow Spectra In DIII-D By A Dual-Channel

			Doppler Backscattering System
J12	Hillesheim	J.C.	A Multichannel, Tunable Doppler Backscattering System for Measurements of Density Fluctuations and Turbulence Velocity
J13	Rhodes	T.L.	Integrated System for the Measurement of Multi-Scale Turbulence and Zonal Flows
J14	Clairet	F.	Upgrade of the fast sweep reflectometry for ballistic turbulence studies on TORE SUPRA
J15	Hanson	G.R.	SOL Reflectometer for Alcator C-Mod
J16	Domier	C.W.	Wide Bandwidth Imaging Arrays for ECEI and MIR
J17	Kogi	Yuichiro	Development of Multi-Channel IF System for ECE Radiometer on K-STAR Tokamak
J18	Fonseca	A	An Experimental Method For The Optical Characterization Of Dielectric Materials At Millimeter Range
J19	Phillips	P.E.	Large Area Black Body Source for ITER ECE In Situ Calibration
J20	Berzak	L.	Magnetic Diagnostics for the Lithium Tokamak Experiment
J21	Lee	S.G.	Magnetic Diagnostics for the First Plasma Operation in KSTAR Tokamak
J22	Bak	J.G.	Diamagnetic Loop for the First Plasma in the KSTAR Machine
J23	Ka	E.M.	Performance Test of the Integrators and Pre-amplifiers for Magnetic Diagnostics in KSTAR Tokamak.
J24	Tojo	H.	Poloidal Mode Analysis of Magnetic Probe Data in a Spherical Tokamak Configuration
J25	Cavazzana	Roberto	Simultaneous Measurements of Local Magnetic Fluctuations and Gas Puff Emissivity in Edge Plasmas
J26	Coelho	R.	Real-time estimation of the poloidal wavenumber of ISTTOK Tokamak magnetic fluctuations
J27	Werner	Andreas	W7-X Magnetic Diagnostics: Rogowski Coil Performance for very Long Pulses
J28	Bilyk	O.	Magnetic diagnostics on the COMPASS tokamak
J29	Duran	I.	Magnetic Measurements Using Arrays Of Integrated Hall Sensors On CASTOR Tokamak
J30	Roquemore	A.L.	Diagnostics for the Biased Electrode Experiment on NSTX
J31	Watkins	J.G.	High Heat Flux Langmuir Probe Array for the DIII-D Divertor Plates
J32	Lan	T.	Spectral features of Zonal Flows measured by the three-dimensional Langmuir probe arrays in the HL-2A and HT-7 tokamaks
J33	Kudyakov	T.	Spectral measurements of runaway electrons by a scanning probe in the TEXTOR tokamak
J34	Kuritsyn	A.	Probe Measurements of the Maxwell and Reynolds Stresses in the MST Reversed Field Pinch
J35	Compeau	R.	Triple Probe Signal Detection Electronics For Systems Lacking A Well Defined Ground
J36	Intrator	T.	A Three Dimensional Probe Positioner

DIAGOSTIC SUITES, HARSH ENVIRONMENTS, NEUTRAL BEAMS, ION BEAMS, PELLET INJECTION, DATA ACQUISITION AND ANALYSIS, ENGINEERING, AND DUST MEASUREMENTS

Session Chairman: Réjean L. Boivin
7:00 pm – 10:30 pm, Wednesday, May 14

Oral Invited Session K

		First Author		Title
7:00 pm	K1	Bourgade	J.L.	Present LMJ Diagnostics Developments Induced By Its Harsh Environment
7:30 pm	K2	MacPhee	A.G.	Plasma Diagnostics for Electron Fast Ignition Inertial Confinement Fusion
8:00 pm	K3	Rudakow	D.L.	Dust Measurements in Tokamaks

Poster Contributed Session L

		First Author		Title
8:30 pm	L1	Thomas	D.M.	Recent Revisions to the ITER Diagnostic System and Measurement Requirements
	L2	Bourgade	J.L.	Summary Of The First International Workshop On ITER-LMJ-NIF Components In Harsh Environments
	L3	Jones	M.C.	Commissioning of Z-Pinch X-Ray Energy, Power, Spectrum and Imaging Diagnostics on the Upgraded Z Facility
	L4	Batha	S.H.	TRIDENT High-Energy-Density Facility Experimental Capabilities and Diagnostics
	L5	Wurden	G.A.	Translation and Implosion Diagnostics for FRCHX
	L6	Reinke	M.	2D Radiated Power Diagnostics for Alcator C-Mod
	L7	Stratton	B.C.	Diagnostics for the National Compact Stellarator Experiment
	L8	Yang	Qingwei	Advance of HL-sA diagnostics
	L9	Serianni	G.	The diagnostic system of the Neutral Beam Injectors for ITER heating and current drive
	L10	Miyata	Y.	Design of Novel Analyzer for Multipoint Measurement in a Gold Neutral Beam Probe
	L11	Mizuguchi	M.	Study of Radial Potential Fluctuations by Using a Gold Neutral Beam Probe System
	L12	Veshchev	E.A.	Analysis of the Impurities Influence on the Attenuation of Fast Particles and the Shape of the Measured Fast Ion Spectra in the Large Helical Device (LHD)
	L13	Goncharov	P.R.	Analysis of Anisotropic Suprathermal Ion Distributions Using Multidirectional Measurements of Escaping Neutral Atom Fluxes
	L14	Goncharov	P.R.	Calculation of Low-Z Impurity Pellet Induced Fluxes of Charge Exchange Neutral Particles Escaping from Magnetically Confined Toroidal Plasmas
	L15	Harris	Wayne	Time-of-Flight Neutral Particle Analyzer and Calibration
	L16	Harvey	Z.	Comparison of Gridded Energy Analyzer and Laser Induced Fluorescence Measurements of a Two-Component Ion Distribution
	L17	Bespamyatnov	Igor O.	Compact, Accurate Description Of DNB Propagation And

			Attenuation In A High Temperature Plasma For CXRS Analysis
L18	Okamoto	A.	Development of a Compact Plasma Source for Test Target of Diagnostic Beams
L19	Kobuchi	T.	Arc efficiency of a strongly focusing high-intensity He^+ ion source for a confined alpha particle measurement at ITER
L20	Kojima	Atsushi	Lithium Beam Probe System for Edge Plasma Measurements on JT-60U
L21	Shimizu	Akihiro	Magnetic Field Fluctuation Measurement with Heavy Ion Beam Probe in The Large Helical Device
L22	Ido	Takeshi	Measurement of Electrostatic Potential and Its Fluctuation by Heavy Ion Beam Probe in Large Helical Device
L23	Nedzelskiy	I.S.	Observation of plasma density fluctuations by heavy ion beam diagnostic with multiple cell array detector on the tokamak ISTTOK
L24	Ohshima	Shinsuke	Method of Measuring Spatial Structure of Potential Fluctuation by Multi-Channel Heavy Ion Beam Probe on LHD
L25	Yoneda	Y.	Study of hydrogen ice pellet injection during EC and NBI heating in GAMMA10
L26	McCarthy	K.J.	A Compact Flexible Pellet-Injector For The TJ-II stellarator
L27	Lockard	T.E.	Data Analysis of Z-machine Plasmas
L28	Seifter	Achim	Different Methods of Reconstructing Spectra from Filtered X-ray Diode Measurements
L29	Ford	O.	Bayesian Analysis of Electron Density Diagnostics at JET
L30	Brix	M.	Accuracy of EFIT equilibrium reconstruction with internal diagnostic information at JET
L31	Dormido-Canto	S.	Intelligent classifier for JET plasma configurations
L32	Vega	J.	Intelligent Technique To Search For Patterns Within Images In Massive Databases
L33	Ratta	G.A.	Disruption Prediction at JET with a Combination of Exploratory Data Analysis and Supervised Methods
L34	Banerjee	Santanu	Exploring the Parameter Space and Robustness of Tangential Image Tomographic Reconstruction (TITR) Code
L35	Hideya	Nakanishi	LABCOM/X Data Acquisition and Management System for the Next-Generation Fusion Experiments
L36	Carvalho	P.J.	A real-time tomography diagnostic and control system in ISTTOK
L37	Brooks	N.H.	Spectral Line Monitors With High Frequency Response, High Dynamic Range and Long Data Record Capability Relevant to Long Pulse Devices
L38	Klinkhamer	F.	Using Cramer-Rao theory in the design of spectroscopy-based diagnostics aimed at quantitative complex-spectrum analysis
L39	Preinhaelter	J.	Simulations of EBW Power Deposition and Current Drive in WEGA
L40	Alessi	E.	Development of a Reconstruction Procedure for the Halo Current Distribution
L41	Wang	Zhehui	Dust as a versatile matter for high-temperature plasma diagnostics
L42	Boeglin (Fiu)	W.	3-D reconstruction of dust particle trajectories in the NSTX

L43	Lopez	J.M.	LXI standard trigger capabilities implementation in advanced DAQ platforms
L44	de Arcas	G.	Self adaptive sampling rate for data acquisition in the KG8B JET correlation reflectometer
L45	Konig	R.	Diagnostic Developments for Quasi-Continuous Operation of the Wendelstein 7-X Stellarator
L46	Parajulee	Shankar	Super-hydrophilic Properties of Titanium Dioxide Thin Film Deposited by Pulse dc Magnetron Sputtering in a Meter Size Reactor
L47	Alfier	A.	In-situ window cleaning by laser blow-off through optical fiber

OPTICAL (IR, VISIBLE, UV, EUV), MOTIONAL STARK EFFECT, CHARGE EXCHANGE, RECOMBINATION, BEAM EMISSION SPECTROSCOPY, OPTICAL SPECTROSCOPY AND SUPRATHERMAL ELECTRONS

Session Chairman: Brentley Stratton
8:30 am – 12:30 pm, Thursday, May 15

Oral Invited Session M

		First Author		Title
8:30 am	M1	Coda	S.	Diagnostic Techniques for Measuring Suprathermal Electron Dynamics in Plasmas
9:00 am	M2	Dymoke-Bradshaw	A.K.L.	A Novel, Compact High Speed Streak Camera
9:30 am	M3	Celliers	P.M.	High Resolution Shock Front Measurements
10:00 am	M4	Storm	M.	Relativistic Electron-Beam Transport Measurements

Poster Contributed Session N

		First Author		Title
10:30 am	N1	Gnesin	S.	Suprathermal Electron Studies in the TCV Tokamak: Design of a Tomographic Hard-X-Ray Spectrometer
	N2	Plyusnin	V.V.	Use Of Cherenkov-Type Detectors For Measurements Of Runaway Electrons In The ISTTOK Tokama
	N3	Blacksell	Michael	Imaging photo-multiplier array with integrated amplifiers, and high-speed USB interface
	N4	Adachi	Y.	Detection Of A New PDI Branch In TST-2 During High Harmonic Fast Wave Heating
	N5	Stutman	D.	Free-standing Diffractive Optical Elements as Light Extractors for Burning Plasma Experiments
	N6	Iraji	D.	Fast visible imaging of turbulent plasma in TORPEX
	N7	Davi	M.	Progress of the ITER Equatorial VIS/IR Wide Angle Viewing System
	N8	Chung	Jinil	Installation of fast framing visible camera on KSTAR
	N9	Higashizono	Y.	Development of a Plasma Diagnostic System Using a CCD Camera in CPD

N10	Meister	H.	The ITER Bolometer Diagnostic – Status and Plans
N11	Krychowiak	Maciej	Development of a virtual Z_{eff} diagnostic for the W7-X stellarator
N12	Cantarini	J.	Optical Design Study of an Infrared Visible Viewing System for Wendelstein 7-X Divertor Observation and Control
N13	Matsuo	Keiji	Measurements of Spatial Distribution of Electron Density Fluctuations by Analyzing its Propagation Direction Using YAG Laser Imaging Method
N14	Berisford	Daniel F.	Heat Flow Diagnostics for Helicon Plasmas
N15	Wang	P.J.	Thermal Temperature Measurements of Plasma Torch by Alexandrite Effect Spectropyrometer
N16	Yu	J.H.	Spectrally Filtered Fast Imaging of Internal MHD Activity in the DIII-D Tokamak
N17	Pablant	N.A.	Measurements of the Internal Magnetic Field on DIII-D Using Intensity and Spacing of the Motional Stark Multiplet
N18	Holcomb	C.T.	Overview of Equilibrium Reconstruction on DIII-D Using New Measurements from an Expanded Motional Stark Effect System
N19	Makowski	M.A.	Progress and Design Status of the ITER MSE Diagnostic
N20	Ko	Jinseok	Design of a New Optics System for Alcator C-Mod MSE Diagnostic
N21	Foley	E.L.	The Motional Stark Effect Diagnostic on ITER
N22	Levinton	Fred M.	The Motional Stark Effect (MSE) Diagnostic on the National Spherical Torus Experiment (NSTX)
N23	Yuh	H.Y.	Simulation of the motional Stark effect diagnostic gas-filled-torus calibration
N24	De Bock	M.F.M.	3D Modeling of the Motional Stark Effect on MAST
N25	Giroud	C.	Impact of calibration technique on measurement accuracy of the JET Core charge-exchange system
N26	Jaspers	R.J.E.	Validation of the ITER CXRS design by tests on TEXTOR
N27	Zastrow	K.D.	Modeling the effect of reflection from metallic walls on spectroscopic measurements
N28	McKee	G.R.	Ultra-Fast Ion Temperature and Toroidal Velocity Fluctuation Spectroscopy Diagnostic
N29	Rowan	W.L.	Wide-View Charge Exchange Recombination Spectroscopy (CXRS) Diagnostic For The Alcator C-Mod Tokamak
N30	Biewer	T.M.	An Optical Device for Low-Loss Separation of Spectral Lines Relevant to Charge-Exchange Recombination Spectroscopy
N31	Solomon	W.M.	Characterization of Cross-Section Correction to Charge Exchange Recombination Spectroscopy Measurements Using Co+Counter Neutral Beam Views
N32	Marchuk	O.	A Review Of Atomic Data Needs For Active Charge-Exchange Spectroscopy On ITER
N33	Suzuki	T.	Magnetic Fluctuation Profile Measurement Using Optics of Motional Stark Effect Diagnostics in JT-60U
N34	Shafer	M.W.	Enhanced Signal-to-Noise Ratio Analysis Techniques for BES Data
N35	King	J.D.	A passive ion Doppler spectrometer instrument for ion

			temperature and flow measurements on SSPX
N36	Zhou	H.Y.	Z_{eff} Profile Measurement System With An Optimized Czerny-Turner Visible Spectrometer In LHD
N37	Bikas	Malay	Development Of A Flat-Field EUV Spectrometer For Observation Of Δn=1 Transitions From Medium Z Impurities In LHD
N38	Clementson	J.	A High-Resolution EUV Spectrometer for Plasma Diagnostics
N39	Soukhanovskii	V.A.	Near-Infrared Spectroscopy for Magnetically Confined Burning Plasma Diagnostic Applications
N40	Zurro	B.	An experimental system for spectral line ratio measurements in the TJ-II stellarator
N41	Tamura	N.	Spectroscopic Diagnostics For Ablation Cloud Of Tracer-Encapsulated Solid Pellet In LHD
N42	Kantsyrev	V.L.	EUV Spectroscopy Diagnostics of Low-temperature Plasmas Based on a Sliced Multilayer Grating
N43	Wilcox	P.G.	EUV Spectroscopy Of Low-Z Ion Plasmas For Fusion Applications
N44	Graf	A.	Multi-Channel Doppler Transmission Grating Spectrometer
N45	Visco	A.	Temporal Dispersion of a Spectrometer
N46	Charest	Michael R.	Reliable And Repeatable Characterization Of Optical Streak Cameras
N47	Gautier	D.C.	A Novel Backscatter Focus Diagnostic for the TRIDENT 200 TW Laser
N48	Neumayer	P.	A pulsed-laser calibration system for the laser backscatter diagnostics at the Omega laser
N49	London	R.A.	Optical Transmission of Glass for the National Ignition Facility Near Backscatter Imagers Under X-Ray Exposure
N50	Pollock	B.B.	Multi-cm Long High Density Magnetic Plasmas For Optical Guiding
N51	Kline	J.L.	Using a short pulse diffraction limited laser beam to probe filamentation of a random phase plate smoothed beam